



KS2.M-Y5N5 Fractions: Comparing, Adding and Subtracting

Calculators not allowed · about 60 minutes

Total Marks

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Name: _____ Date: ____ / ____ / ____

Answer ALL questions. Show all your working.

- 1** Which fraction is larger: $\frac{3}{8}$ or $\frac{2}{5}$? Write the fraction that is larger.

(1)

- 2** Write a fraction equivalent to $\frac{4}{6}$ in its simplest form.

(1)

- 3** Complete: $\frac{5}{12} + \frac{1}{12} = ?$

(2)

- 4** Jacob colours $\frac{3}{4}$ of a shape. Priya colours $\frac{1}{8}$ of the same shape. How much of the shape is coloured altogether? Give your answer as a fraction in its simplest form.

(2)

- 5** Order these from smallest to largest: $\frac{7}{10}$, $\frac{3}{5}$, $\frac{4}{8}$.

(2)

6 Sofia says $\frac{6}{9}$ is equal to $\frac{2}{3}$. Is she correct? Explain in one sentence.

(2)

7 Find $\frac{1}{3}$ of 60.

(2)

8 Add $\frac{3}{5}$ and $\frac{1}{10}$. Give your answer in its simplest form.

(2)

9 A recipe needs $\frac{2}{3}$ of a cup of milk and $\frac{1}{6}$ of a cup of oil. How many cups of liquid are needed in total? Give your answer in simplest form.

(2)

10 Complete the table: What is $\frac{1}{2}$ of 14? What is $\frac{1}{4}$ of 20?

(a) $\frac{1}{2}$ of 14

(1)

(b) $\frac{1}{4}$ of 20

(1)

11 Sam ate $\frac{5}{12}$ of a pizza and Mia ate $\frac{1}{3}$ of the same pizza. How much of the pizza was eaten altogether? Give your answer in simplest form.

(2)

12 Write $2\frac{1}{4}$ as an improper fraction.

(2)

13 Calculate $1\frac{1}{2} + 2\frac{1}{3}$. Give your answer as a mixed number in its simplest form.

(2)

14 A class collects $\frac{7}{10}$ kg of apples on Monday and $\frac{2}{5}$ kg on Tuesday. How many kilograms did they collect altogether? Give your answer as a fraction.

(2)

15 Explain why $\frac{4}{6}$ is greater than $\frac{3}{5}$. Give a short written reason.

(2)

16 Work out $2\frac{2}{5} - 1\frac{3}{10}$. Give your answer as a mixed number in simplest form.

(3)

17 Liam says that to add $\frac{5}{6}$ and $\frac{1}{4}$ you add the numerators and add the denominators to get $\frac{6}{10}$. Is Liam correct? Explain your answer.

(3)

18 Find the total of $\frac{1}{3} + \frac{1}{4} + \frac{1}{6}$. Give your answer in simplest form.

(3)

Mark scheme · KS2.M-Y5N5 Fractions: Comparing, Adding and Subtracting

Question 1

- **B1** $2/5$ cao
- Answer: **2/5**

Question 2

- **B1** $2/3$ cao
- Answer: **2/3**

Question 3

- **M1** Adds numerators with same denominator seen ($5 + 1 = 6$)
- **B1** $6/12$ or $1/2$ cao
- Answer: **1/2**

Question 4

- **M1** Find common denominator 8 and convert $3/4$ to $6/8$ or equivalent method
- **B1** $7/8$ cao
- Answer: **7/8**

Question 5

- **M1** Attempts common denominator or converts to decimals/like denominators correctly
- **B1** $4/8$, $3/5$, $7/10$ cao
- Answer: **4/8, 3/5, 7/10**

Question 6

- **M1** Shows multiplication or division to simplify $6/9$ (for example divide numerator and denominator by 3)
- **B1** Statement that $6/9 = 2/3$ with correct reason, e.g. $6 \div 3 = 2$ and $9 \div 3 = 3$
- Answer: **Yes. $6/9 = 2/3$ because $6 \div 3 = 2$ and $9 \div 3 = 3$.**

Question 7

- **M1** Divides 60 by 3 or shows method to find a third
- **B1** 20 cao
- Answer: **20**

Question 8

- **M1** Convert to common denominator 10: $3/5 = 6/10$, then add
- **B1** $7/10$ cao
- Answer: **7/10**

Question 9

- **M1** Find common denominator 6 and convert $2/3$ to $4/6$ (or equivalent)
- **B1** $5/6$ cao
- Answer: **5/6**

Question 10

- (a) **B1** 7 cao
- (a) Answer: **7**
- (b) **B1** 5 cao
- (b) Answer: **5**

Question 11

- **M1** Convert $\frac{1}{3}$ to $\frac{4}{12}$ and add to $\frac{5}{12}$
- **B1** $\frac{9}{12}$ or $\frac{3}{4}$ cao
- **Answer: $\frac{3}{4}$**

Question 12

- **M1** Multiplies whole number by denominator and adds numerator ($2 \times 4 + 1$)
- **B1** $\frac{9}{4}$ cao
- **Answer: $\frac{9}{4}$**

Question 13

- **M1** Convert to improper fractions or convert to common denominator ($1\frac{1}{2} = \frac{3}{2}$, $2\frac{1}{3} = \frac{7}{3}$) and add
- **B1** $3\frac{5}{6}$ cao
- **Answer: $3\frac{5}{6}$**

Question 14

- **M1** Convert $\frac{2}{5}$ to $\frac{4}{10}$ and add to $\frac{7}{10}$
- **B1** $\frac{11}{10}$ or $1\frac{1}{10}$ cao
- **Answer: $\frac{11}{10}$**

Question 15

- **M1** Shows method to compare, e.g. convert to common denominator 30: $\frac{4}{6} = \frac{20}{30}$ and $\frac{3}{5} = \frac{18}{30}$ or compares decimals
- **B1** Conclusion that $\frac{4}{6} > \frac{3}{5}$ with correct reason, e.g. $\frac{20}{30} > \frac{18}{30}$
- **Answer: $\frac{4}{6}$ is greater because $\frac{4}{6} = \frac{20}{30}$ and $\frac{3}{5} = \frac{18}{30}$, and $\frac{20}{30} > \frac{18}{30}$.**

Question 16

- **M1** Convert to improper fractions or to common denominator: $2\frac{2}{5} = \frac{12}{5}$, $1\frac{3}{10} = \frac{13}{10}$
- **M1** Convert both to denominator 10 and subtract ($\frac{24}{10} - \frac{13}{10} = \frac{11}{10}$)
- **B1** $1\frac{1}{10}$ cao
- **Answer: $1\frac{1}{10}$**

Question 17

- **M1** Identifies error in method or shows correct approach is to use common denominator
- **M1** Shows correct common denominator and adds correctly, e.g. $\frac{5}{6} = \frac{10}{12}$, $\frac{1}{4} = \frac{3}{12}$, sum = $\frac{13}{12}$
- **B1** Conclusion that Liam is incorrect and correct sum is $\frac{13}{12}$ or $1\frac{1}{12}$ cao
- **Answer: No. Liam is incorrect. $\frac{5}{6} + \frac{1}{4} = \frac{10}{12} + \frac{3}{12} = \frac{13}{12} = 1\frac{1}{12}$.**

Question 18

- **M1** Find common denominator 12 and convert each fraction: $\frac{1}{3} = \frac{4}{12}$, $\frac{1}{4} = \frac{3}{12}$, $\frac{1}{6} = \frac{2}{12}$
- **M1** Adds numerators correctly to get $\frac{9}{12}$
- **B1** $\frac{3}{4}$ cao
- **Answer: $\frac{3}{4}$**